

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 September 2003 (25.09.2003)

PCT

(10) International Publication Number
WO 03/078302 A2

(51) International Patent Classification⁷: **B81B 7/02**

(21) International Application Number: **PCT/EP03/50073**

(22) International Filing Date: 19 March 2003 (19.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0206510.0 20 March 2002 (20.03.2002) GB

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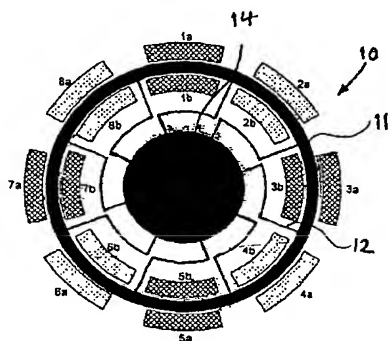
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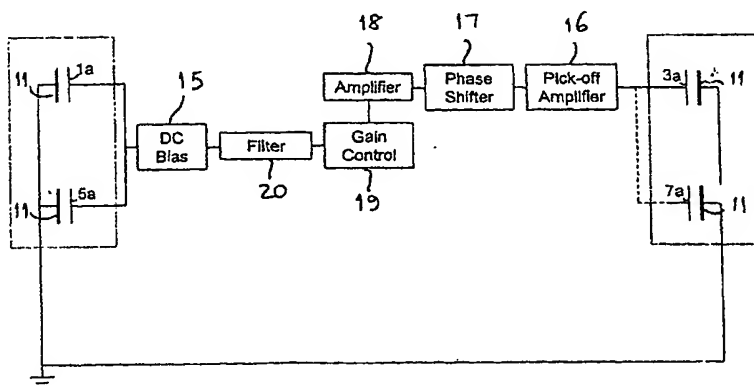
(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

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(54) Title: MICRO-ELECTROMECHANICAL SYSTEMS



(57) Abstract: A micro-electromechanical system (MEMS) comprises a substrate incorporating an oscillatory ring (11), forcing electrodes (1a, 1b, 5a, 5b) for driving the ring into resonance, and sensing electrodes (3a, 3b, 7a, 7b) providing an electrical output signal dependent on oscillation of the ring as a result of such forcing and any externally applied force. A positive feedback circuit is provided for feeding back a signal dependent on the output signal of the sensing electrodes (3a, 3b, 7a, 7b) to the forcing electrodes (1a, 1b, 5a, 5b) in order to sustain oscillation of the ring. The use of positive feedback to drive the forcing electrodes in order to sustain oscillation of the ring is highly advantageous in such an application since it produces a system which exhibits very low phase noise of a magnitude considerably less than the phase noise experienced in use of a phase-lock loop circuit to sustain oscillation.



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